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TECHNICAL DATASHEET

Vitralit® UC 1609

Vitralit® UC 1609 is a uv-curable compound for opto-electronic components like LED and VCSEL.

The product features excellent transmission in the area of 650-1300 nm, as well as ionic pureness, non-yellowing and exceptionally thermal shock resistance (-55° C / + 125° C).

The low α -value results from nanoscale SiO₂ fillers, without affect to the the optical properties. The product has been developed during the EU-Growth programme under the project OPECO (Nr. CSG-2001-40346) and has also been specified for applications in the aerospace field.

Storage stability: In closed original trading units at 5 °C without UV- influence for 3 month

Technical Data

Color	transparent
Resin	epoxy
Filler	approx. 25% SiO ₂ -Nanopartikel

UNCURED PROPERTIES

Viscosity (Brookfield LVT/25°C) [mPa·s]	PE-Norm P001	3000 to 5000
Flash point [°C]	PE-Norm P050	> 95
Refractive Index [nD20]	PE-Norm P018	1.487

Curing

UV(UV-A >100mW/cm ² Thickn.st. 1mm): [sec.]	PE-Norm P002	120
Thermal Curing 120°C :[Min]	PE-Norm P035	15
Full Strength [hours]	PE-Norm P032	after 24

CURED PROPERTIES

Temperature Resistance [°C]	PE-Norm P030	-55 to 175
Hardness [Shore D]	PE-Norm P052	70 to 80
Shrinkage [%]	PE-Norm P031	1.3
Water Absorption [mass-%]	PE-Norm P053	< 0.34
Tg [°C] (DSC)	PE-Norm P009	80 to 90
CTE [ppm/K]	PE-Norm P017	27

Mechanical Data

E-Modul [MPa]

[PE-Norm P056]

3425

Instructions of use of filled Vitralit UV epoxy

- store at max. 5 °C
- warm up to room temperature before usage
- dispensable, filled systems are use at machines from e.g. Mühlbauer, Schiller, Esec or Ruhamat
- surface must be clean and dry and free from fat and parting agents

For curing UV- light at wavelength from 315 - 400 nm is needed. The curing time depends on:

- * emission spectrum and energy of emitter, min 30mW/cm²
- * distance to substrate
- * ageing of emitter
- * layer thickness
- * material influence like reflection, adsorption and UV- diaphaneity

This is a dual curing product, which means in deep layers or shadowed areas it can be cured by thermal heating.

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